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[TITLE] PORTABLE COMMUNICATION APPARATUS

[ABSTRACT]

[PROBLEM TO BE SOLVED]

[SOLUTION] A telephone directory memory 27 stores both private-use terminal data and business-use terminal data mixed up. A control unit 23 set private mode, which has an access to a base station at home or a business mode, which has an access to the base station in the office depending on the establishment of the control channel. Also, when the control unit 23 receives a retrieving order of the terminal data from the key input unit 1, it swiftly retrieves the terminal data, which corresponds to the classification of the set mode, from the telephone directory memory 27. The terminal data is then supplied to the display unit 4 to be displayed, one terminal data is to be selected in accordance with a selection order. Upon receiving a calling order, a telephone number of the selected terminal data is called to the base station.

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[CLAIMS]

1. A mobile phone communication apparatus, comprising:

a storage means for storing a classification within different classifications with a plurality of targeted terminals which corresponds with the classification;

a setting means to set one classification within the different classifications;

a retrieving means to retrieve a terminal data of said storage means based on the classification set by the setting means; and

an output means which outputs the terminal data of the predetermined classification which is retrieved by the retrieving means.

2. A mobile phone communication apparatus in claim 1, characterized in that said mobile phone communication apparatus is capable of a wireless communication via a base station, and said setting means is set based on a base station identification code sent from the base station.

3. A mobile phone communication apparatus in claim 2, characterized in that said classification is for public and private use, and said base station identification code is at least an office or home, wherein said setting means is set to the public use upon receiving the base station identification code of the office from said base station, and said setting means is set to the private use upon receiving the base station identification code of the home from said base station.

4. A mobile phone communication apparatus in claim 2, characterized in that said output means is a calling means which calls the terminal data to said base station.

5. A mobile phone communication apparatus in claim 1, characterized in that said mobile phone communication apparatus has a display means for displaying the terminal data output from said output means.

6. A mobile phone communication apparatus in claim 1, characterized in that said storage means is divided in areas which each area stores a predetermined classification of the terminal data.

7. A mobile phone communication apparatus in claim 1, characterized in that said mobile phone communication apparatus stores the previously received or called terminal data or the classification which corresponds to the terminal data, and said

setting means set the classification in accordance with the stored terminal data or the classification corresponds to the terminal data.

8. A mobile phone communication apparatus in claim 6, characterized in that said storage means is comprised of an external storage which stores the terminal data of each area, and said mobile phone communication apparatus comprises in its body a slot for inserting said external storage.

[DETAILED DESCRIPTION OF THE INVENTION]

[TECHNICAL FIELD]

[0001] This invention relates to a mobile phone communication apparatus for registering terminal data.

[BACKGROUND OF THE INVENTION]

[0002] Conventionally, there is a mobile phone communication apparatus with a telephone directory memory, which registers/stores terminal data comprised of a telephone number, name and address or the like of the targeted terminal, and displays a list of the retrieved registered terminal data on the display unit. Users can select the list of the displayed terminal data and automatically dial the targeted terminal or confirm the necessary information.

[OBJECT OF THE INVENTION]

[0003] Personal Handyphone System (PHS) has recently become commercially practical. It can be used privately at home or can be used on business as a mobile phone within the office. Therefore, registered terminal data has a mixture of private-use and business-use data. However, in the prior art, both private-use terminal data and business-use terminal data are registered randomly. Thus, for example, when retrieving a telephone number of the particular targeted terminal of private-use group, business-use terminal data is also displayed at the same time. Since a display has limited space of displaying the terminal data at a same time, it took too long time to retrieve the terminal data, which one looks for. Object of this invention is to be able to swiftly retrieve the terminal data which one is looking for, even if different classifications of the terminal data are registered in mixture.

[SUMMARY OF THE INVENTION]

[0004] This invention relates to a mobile phone communication apparatus, comprising; a storage means for storing a classification within different classifications with a plurality of targeted terminals which corresponds with the classification; a setting means to set one classification within the different classifications; a retrieving means to retrieve a terminal data of said storage means based on the classification set by the setting means; and an output means which outputs the terminal data of the predetermined classification which is retrieved by the retrieving means. Also, at this time, the setting means may be set based on the base station identification code sent from the base station. Furthermore, at this time, the storage means may be divided in

areas which each area stores a predetermined classification of the terminal data. In this case, said storage means is comprised of an external storage which stores the terminal data of each area, and said mobile phone communication apparatus comprises in its body a slot for inserting said external storage. Furthermore, said mobile phone communication apparatus stores the previously received or called terminal data or the classification which corresponds to the terminal data, and said setting means set the classification in accordance with the stored terminal data or the classification corresponds to the terminal data.

[0005] In accordance with the above described configuration of this invention, when retrieving a registered terminal data, classification of the terminal data which is set can only be read from the storage and displayed without displaying other classification of the terminal data, so that even if different classifications of the terminal data are mixed and registered, the targeted terminal data can swiftly be retrieved. Also, by setting a classification based on the identification code sent from a base station when established a control channel between the base station, it permits to retrieve the private-use classsified terminal data only when the mobile communication apparatus is at home, and it permits to retrieve the business-use classified terminal data only when the mobile communication apparatus is at office. Moreover, it is configured that the every predetermined classified terminal data to be stored in the single area so that the predetermined classified terminal data can swiftly be retrieved by switching the areas. In this case, a storage means is comprised of an external storage means, which removably be inserted to the body of the apparatus, so that a number of terminal data can be registered, and the external storage means is exchanged according to use. Moreover, the invention is configured to store the classification of the terminal data, which previously received a call or made a call, and when retrieving the terminal data, a mode is set in accordance with the classification of the terminal data, which previously received a call or made a call. Therefore, without establishing the control channel, the targeted terminal data can be swiftly retrieved.

[0006] Referring now to figures 1 to 9, the first and second embodiments of the present invention will be described, using a mobile communication apparatus for Personal Handyphone System (PHS) as a way of examples. Firstly, figures 1 to 5 will be referred to describe the first embodiment. As for PHS, its modulation and demodulation system uses π/4 shift QPSK, and the access system is 4-channel multiplex TDMA/TDD (Time Division Multiple Access/Time Division Duplex). TDMA employs the entire bandwidth of the system to make broadband communication with one radiowave carrier, and provides 4-channel transmission/receive slot by dividing a 5ms time period frame

into eight, making 625μs as a slot. Also, communication control system in PHS provides another control channel for control signal other than a communication channel for voice signal. Typically, the control signal is transmitted periodically from a base station (LCCH super frame). Each terminal is allowed to connect the base station by receiving this control signal, then upon calling/incoming call, requesting allocation of a calling channel to the base station by using an up line of the control channel, and when the calling channel is allocated, the calling channel is used and performs a determined procedure, connect the RF channel, and then the call is initiated.

[0007] PHS terminal is provided with a key input unit 1, a speaker 2, a microphone 3, a display unit 4 and an antenna 5 as shown in figure 1. The key input unit 1 comprises a dial button 11 as well as a calling button 12 which is used when making a call or receiving an incoming call, an off-switch 13 which is used when terminating a call, a transceiver/internal line button 14, which is used for making or receiving a call of the transceiver when it is in a transceiver mode and used for incoming call or an intercom when it is in a telephone mode, a telephone directory button 16a indicating the telephone directory mode, a register button 16b for registering data, a delete button 16c for deleting data, and a scroll button 17 for scrolling volume control and display data. Although not shown in the figure, there are other buttons such as on/off buttons for power source.

[0008] Figure 2 is a block diagram of the PHS terminal system showing a key input unit 1 etc. and an internal configuration of the circuitry unit 6 connected to them. A transmission/reception unit 21comprises an antenna switch which divides transmission/reception, a frequency converter unit having PLL synthesizer, and a modem which modulates/demodulates in order to connect with the communication line, and so forth. At the transmission side of the frequency converter unit, modulated wave of π/4 shift QPSK input from the modem is mixed with the local oscillating signal output from the PLL synthesizer, and frequency is converted to the 1.9 GHz band RF signal, providing the signal to the antenna 5 via the antenna switch. At the receiving side of the modem, IF signal from the frequency converter unit is demodulated to be separated as a IQ data, and transferred to the communication control unit 22 as a received data column. At the transmission side of the modem, IQ data is made from transferred data from the communication unit 22, and output to frequency converter unit afterπ/4 shift QPSK is modulated.

[0009] The communication control unit 22 deals with a frame synchronization and data format processing. At the receiving side of the communication control unit 22, a slot data is pulled out from the received data column transferred from the modem of

the transmission/reception unit 21 in a predetermined timing, then the synchronizing signal called a unique word is extracted out of the data and frame synchronization is taken. Also, after scrambling of the control signal and the voice signal is released, the control signal is transferred to a control unit 23 and the voice signal is transferred to a voice processing unit 24. At the transmission side of the communication control unit, the control signal is added to the voice signal transferred from the voice processing unit 24, scrambled, add the unique word and a slot transmit data is made. The transmit data is then inserted into a predetermined slot in a frame in a predetermined timing and transferred to the modem of the transmission/reception unit 21.

[0010] The voice processing unit 24 comprises a speech codec and a PCM codec (both not shown). The speech codecs are used for compress/expand processing of digital data, and its receiving side composite the ADPCM voice signal of 32 kbps (4 bit·8kHz) transferred from the communication control unit 22 to the PCM voice signal, expands and output to the PCM codecs. On the other hand, its transmission side encodes and compresses the PCM voice signal sent from the PCM codecs to the ADPCM voice signal, the signal is then transferred to the communication control unit 22. The PCM codecs are for A/D conversion processing, and in its receiving side, the PCM voice singal is D/A converted and its analog voice signal is output to the speaker 2. On the other hand, in its transmission side, the analog voice signal input from the microphone 3 is A/D converted and its PCM voice signal is output to the speech codecs.

[0011] An operation program executed from the control unit 23, or data etc. necessary for the initial processing are stored in ROM 25. RAM 26 temporarily stores data etc. which the control unit 23 processes. A telephone directory memory (storage means) 27 stores the terminal data of the targeted terminal. The control unit (control means) 23 controls the entire apparatus based on the operation program, analizes the control signal of the control channel transferred from the communication control unit 22, distinguishing whether this base station is a home area base station or a office area base station. Also, input from the key input unit 1 performs a call/incoming call prosessing and terminal data retrieval processing as well as supplies varieties of data and message etc. to display on the display unit 4.

[0012] The registration of the terminal data, and retrieval and calling operation of the registered terminal data according to the first embodiment will now be described. When the power is switched on, the control channel is searched to draw the control signal from the base station, performs processing of the control channel establishment. Figure 3 shows a flowchart of the control channel establishment. In step 11 (S11), it is judged whether the office control channel is established between the base

station of the office. If it is determined to be established, it will change to the business mode in step 12 (S12). If it is determined that the office control channel is not established, it is judged whether the home control channel is established between the base station of home in step 13 (S13), and if it it determined that the channel is established, it is changed to the private mode in step 14 (S14). If it is determined that the home control channel is not established, a mode set at present is cleared in step 15 (S15).

[0013] Registration method of the terminal data according to the first embodiment of this invention will now be described. As shown in the figure, the registered terminal data will be a telephone number 31, a name (subscriber's name) 32, address 33 and so forth. Furthermore, registration of the terminal data as well as an identity data 34 showing the classification of the terminal data is also registered. In the terminal data registration mode, if this terminal data is the private-use data , the identification data of "P" is registered with the terminal data. On the other hand, if the terminal data is the business-related data, the identification data of "B" is registered with the termainal data. That is, the terminal data which corresponds to the identification data P is for private-use data, and the terminal data corresponds to the identification data B is for business use data.

[0014] Data reading in case if the registered terminal data is retrieved and to be called will be now described. The control unit 23 reads data from the telephone directory memory 27 when it receives the retrieval instruction from the telephone directory button 16a of the key input 1. Figure 5 shows a flowchart of the data read of retrieval. Firstly, set mode at present is judged in Step 21 (S21). If it is determied to be a private mode, it retrieves private use data corresponds to the identification data P of the telephone directory memory 27. If it is determined to be in the business mode, it retrieves the business-use data corresponding to the identifivation data B in step 23 (S23). If the mode is not set, the entire data is retrieved in step 24 (S24). Then the retrieved terminal data is supplied to be displayed at the display unit 4 in step 25 (S25). If the number of the terminal data is larger than the maximum number of the displayed data, predetermined number of the terminal data is automatically supplied to the display unit 4 in order according to the scroll instruction from the scroll button 17 of the key input unit 1. Moreover, predetermined terminal data is chosen from the terminal data displayed at this display unit 4 (Step 26), judging whether the pressing (instruction of making a call) is detected or not (Step 27), and if the pressing is detected, the number of the terminal data is called in step 28 (S28).

[0015] As above discussed in the first embodiment of the invention, one can

read out a certain classification of the set terminal data only from the telephone directory memory 27 and display them while not displaying other classification of the terminal data, therefore, even if the different classification of the terminal data are mixed and registered, in the telephone directory memory 27, the first embodiment allows the user to promptly retrieve the targeted data.

[0016] Furthermore, the above described first embodiment registers the terminal data with the identification data 34 in a same area when registered in the telephone directory memory 27, howerever, as a alternative example of the first embodiment, an area 41 for registering the private-use data and the area 42 for registering the business-use data may separately provided as shown in figure 6. In this case, the identification data 34 does not need to be registered with the terminal data. When receiving a retrieving instruction, the control unit 23 retrieves the terminal data in a area corresponds to the set mode at the present. At this time, the area 41 may be provided in the telephone directory memory 27 within the terminal, and the area 42 may be provided in a detachable memory with regard to the terminal as will be described in the second embodiment below.

[0017] The second embodiment of the present invention will be now described by referring to the figures 6 to 9. A body of the PHS terminal, as shown in the figure 6, is provided with a slot 18, and a memory card 19 as an external storage can removably be installed to the slot 18. The business-use data is then registered to this memory card 19. The explanation to other configurations of the second embodiment is omitted since they are the same with the first embodiment. If the memory card 19 is installed to the slot 18 of the PHS terminal, as shown in the figure 7, the memory card 19 will be connected to the control unit 23 via bus. Also, provided in RAM 26 is a redialing memory area 266, which stores the the terminal data previously received a call or made a call, and the classification those terminal data belong to. The explanation to other configurations is omitted since they are the same with the first embodiment. In a memory card 19, as shown in a figure 8A, business-use data such as name, office telephone number or the like are registered. On the other hand, just as with the first embodiment, the telephone directory memory 27 registers the private-use data as shown in Figure 8.

[0018] The retrieval of the terminal data in the second embodiment and the data read when making a call are described with referring to a flowchart in Figure 9. When the control unit 23 receives a retrieval instruction from the telephone directory button 16a of the key input unit 1, it shifts to a routine of the data read (Step S31), then read the terminal data of the redialing memory area 266 of RAM 26 (Step S32), judging whether there is the terminal data which previously received a call or made a call (Step

S33). When the judge is made that the terminal data exists, it refers to the classification stored with this terminal data, judging whether its classification is from the telephone directory memory 27 or from the memory card 19 (Step S34). When the judge is made that the terminal data is within the memory card 19, it is then judged whether the memory card 19 is installed in the slot 18 or not (Step S35), if it is judged to be installed, it is then judged whether it is the corresponding memory card 19 with regard to the classification of the terminal data stored in the redialing memory area 266 (Step S36). When it is judged to be corresponded, the business mode is set, and an access will be made to the memory card 19 and retrieve the business-use data (Step S37). On the other hand, in step S34, when it is judged that the classification of the terminal data is within the telephone directory memory 27, and when it is judged that the memory card 19 is not inserted in the slot 18 in the step S35, the private-use mode is set, and an access will be made to the telephone directory memory 27 and retrieve the private-use data (Step S38). Also, in step S33, when it is judged that the redialing memory area 226 does not store the terminal data which previously received a call or made a call, and in step S36, when it is judged that the memory card 19 which is installed to the slot 18 does not corresponds to the classification of the terminal data stored in the redialing memory area 266m the mode set is cleared and the entire data is retrieved (Step S39).

[0019] The retrieved terminal data is then supplied to the display unit 4 to be displayed (Step S40), and if the number of the terminal data to be retrieved is larger than the maximum number of the displayed data, predetermined number of the terminal data is automatically supplied to the display unit 4 in order according to the scroll instruction. Then, one of the terminal data displayed according to the selection instruction is chosen (Step S41), and it will be judged that whether it is received the instruction of making a call (Step S42). If it is judged that the instruction of making a call is received, then it is judged that set mode at present and the mode in the control channel established between the base station is matched or not (Step S43). if it is judged that the modes are matched, a call is made to the chosen number of the terminal data with regard to the base station (Step S44). On the other hand, in step S43, if it is judged that the set mode and the mode in the control channel do not match, the mode is set in accordance with the mode of the communication channel (Step S45), the terminal data of the set mode is retrieved (Step S46), and it shifts to a display processing of the step S45, which follows performing of each processes after the step S41.

[0020] As above discussed in the second embodiment of the invention, one can read the terminal data, which previously received a call or made a call, from the telephone directory memory 27, and set the mode in accordance with the classification

corresponding to that terminal data. The terminal data of that set mode is then retrieved, making a call of the selected terminal data number toward the base station, when any terminal data is selected and the instruction of making a call is received. Therefore, without establishing the control channel, the targeted terminal data can be swiftly retrieved. Also, by registering a business-use data in the memory card 19 which removably be inserted to the body of the PHS terminal, a number of the terminal data can be registered.

[0021] Furthermore, in the above described second embodiment, the memory card 19 is regarded as a memory exclusively for the business-use data, however, when there is more private-use data, the memory card 19 can be a memory exclusively for the private-use data, or both business-use and private-use data can be mixed and registered to the memory card 19.

Especially, the business-use data can have a number of the terminal data per group, such as customers, source, and colleagues. In this case, groups of the business-use data will be mixed and registered. Therefore, each group can be classified and registered, and read the terminal data, which previously received a call or made a call, from the redialing memory area 266, and by retrieving a classification corresponds to the terminal data, the targeted terminal data can more swiftly be retrieved. Also, if plurality of the memory cards 19 can be used seperately to register data for business-use and private-use, memory cards 19 can be exchanged according to use.

[0022] Furthermore, in the above described first and second embodiment, either the private-use mode or the business-use mode is set in accordance with the base station when establishing the control channel between the base station, it is also possible to set the mode in accordance with the mode designation from the key input unit 1. In this case, the private-use data can also be retrieved at the office, and the business-use data can be retrieved at home.

[0023] Also, classification of the registered terminal data can register two or more classifications regardless of the private-use or the business-use data. For example, the business-use data can be separated in two classifications such as the external targeted terminal data and the extension targeted terminal data. Moreover, if PHS is moved to the different office and when retrieving the extension terminal data, it can retrieve the extension targeted terminal data of that office.

[0024] Also, in the above described first and second embodiment, the PHS terminal is used as an example of the mobile communication apparatus, however, it is to be noted that the invention may apply not only the PHS terminal but may also apply to mobile communication apparatus in general, which receive control signals of different

classification from the base station and retrieve the target tarminal data of different classification based on this control signal.

[EFFECT OF THE INVENTION]

[0025] In accordance with this invention, when retrieving a registered terminal data, classification of the terminal data which is set can only be read from the storage and displayed without displaying other classification of the terminal data, so that even if different classifications of the terminal data are mixed and registered, the targeted terminal data can swiftly be retrieved. Also, by setting a classification based on the identification code sent from a base station when established a control channel between the base station, it permits to retrieve the private-use classsified terminal data only when the mobile communication apparatus is at home, and it permits to retrieve the business-use classified terminal data only when the mobile communication apparatus is at office. Moreover, it is configured that the every predetermined classified terminal data to be stored in the single area so that the predetermined classified terminal data can swiftly be retrieved by switching the areas. In this case, a storage means is comprised of an external storage means, which removably be inserted to the body of the apparatus, so that a number of terminal data can be registered, and the external storage means is exchanged according to use. Moreover, the invention is configured to store the classification of the terminal data, which previously received a call or made a call, and when retrieving the terminal data, a mode is set in accordance with the classification of the terminal data, which previously received a call or made a call. Therefore, without establishing the control channel, the targeted terminal data can be swiftly retrieved.

[BRIEF DESCRIPTION OF THE DRAWINGS]

[Fig 1] Fig 1 is a top view showing an operation panel of the PHS terminal in accordance with the present invention.

[Fig 2] Fig 2 is a block diagram of the PHS terminal in accordance with the first embodiment.

[Fig. 3] Fig. 3 is a flowchart of establishing a control channel of the control unit in accordance with the first embodiment.

[Fig.4] Fig. 4 is a diagram showing a telephone directory memory in accordance with the first embodiment.

[Fig. 5] Fig. 5 is a flowchart for reading data of the control unit in accordance with the first embodiment.

[Fig. 6] Fig. 6 is a diagram showing a telephone directory memory structure in accordance with an alternative example of the first embodiment.

[Fig 7] Fig 7 is a top view showing an operation panel of the PHS terminal in accordance with the second embodiment.

[Fig 8] Fig 8 is a block diagram of the PHS terminal in accordance with the second embodiment.

[Fig. 9] Fig. 9 is a flowchart for reading data of the control unit in accordance with the second embodiment.

[EXPLANATION OF THE NUMERALS]

1 KEY INPUT UNIT
2 SPEAKER
3 MICROPHONE
4 DISPLAY UNIT
5 ANTENNA
6 CIRCUITRY UNIT
18 SLOT
19 MEMORY CARD
23 CONTROL UNIT
27 TELEPHONE DIRECTORY MEMORY
266 REDIALING MEMORY AREA

[AMENDMENT]
[SUBMISSION DATE] October 22, 2002
[AMENDMENT 1]
[DOCUMENT] Specification
[CLAIMS]

1. A mobile phone communication apparatus, comprising:

a storage means for storing a plurality of the terminal data by relating one of the classifications and the terminal data of the targeted terminals;

a setting means to set one of the classifications;

a retrieving means to retrieve a terminal data of said storage means based on the classification set by the setting means; and

an output means which outputs the terminal data of the predetermined classification which is retrieved by the retrieving means.

2. A mobile phone communication apparatus in claim 1, characterized in that said mobile phone communication apparatus is capable of a wireless communication via a base station, and said setting means is set based on a base station identification code sent from the base station.

3. A mobile phone communication apparatus in claim 2, characterized in that said classification is for public and private use, and said base station identification code is at least an office or home, wherein said setting means is set to the public use upon receiving the base station identification code of the office from said base station, and said setting means is set to the private use upon receiving the base station identification code of the home from said base station.

4. A mobile phone communication apparatus in claim 2, characterized in that said output means is a calling means which calls the terminal data to said base station.

5. A mobile phone communication apparatus in claim 1, characterized in that said mobile phone communication apparatus has a display means for displaying the terminal data output from said output means.

6. A mobile phone communication apparatus in claim 1, characterized in that said storage means is divided in areas which each area stores a predetermined classification of the terminal data.

7. A mobile phone communication apparatus in claim 1, characterized in that said mobile phone communication apparatus stores the previously called terminal data or the classification which corresponds to the terminal data, and said setting means set the classification in accordance with the stored terminal data or the classification corresponds to the terminal data.

8. A mobile phone communication apparatus in claim 6, characterized in that said storage means is comprised of an external storage which stores the terminal data of each area, and said mobile phone communication apparatus comprises in its body a slot for inserting said external storage.

[AMENDMENT 2]
[DOCUMENT] Specification

[0004] This invention relates to a mobile phone communication apparatus, comprising: a storage means for storing a plurality of the terminal data by relating one of the classifications and the terminal data of the targeted terminals; a setting means to set one of the classifications; a retrieving means to retrieve a terminal data of said storage means based on the classification set by the setting means; and an output means which outputs the terminal data of the predetermined classification which is retrieved by the retrieving means. Also, at this time, the setting means may be set based on the base station identification code sent from the base station. Furthermore, at this time, the storage means may be divided in areas which each area stores a predetermined classification of the terminal data. In this case, said storage means is comprised of an external storage which stores the terminal data of each area, and said mobile phone communication apparatus comprises in its body a slot for inserting said external storage. Furthermore, said mobile phone communication apparatus stores the previously received or called terminal data or the classification which corresponds to the terminal data, and said setting means set the classification in accordance with the stored terminal data or the classification corresponds to the terminal data.

[AMENDMENT 3]
[DOCUMENT] Specification

[0005] In accordance with the above described configuration of this invention, when retrieving a registered terminal data, classification of the terminal data which is set can only be read from the storage and displayed without displaying other classification of the terminal data which is not set, so that even if the classified terminal

data are mixed and registered, the targeted terminal data can swiftly be retrieved. Also, by setting a classification based on the identification code sent from a base station when established a control channel between the base station, it permits to retrieve the private-use classsified terminal data only when the mobile communication apparatus is at home, and it permits to retrieve the business-use classified terminal data only when the mobile communication apparatus is at office. Moreover, it is configured that the every predetermined classified terminal data to be stored in the single area so that the predetermined classified terminal data can swiftly be retrieved by switching the areas. In this case, a storage means is comprised of an external storage means, which removably be inserted to the body of the apparatus, so that a number of terminal data can be registered, and the external storage means is exchanged according to use. Moreover, the invention is configured to store the classification of the terminal data, which previously received a call or made a call, and when retrieving the terminal data, a mode is set in accordance with the classification of the terminal data, which previously received a call or made a call. Therefore, without establishing the control channel, the targeted terminal data can be swiftly retrieved.

にしてもよい。

【００２４】また、上記第１及び第２実施形態では、携帯通信装置としてＰＨＳ端末を例に採ったが、この発明が適用できる対象としてはＰＨＳ端末に限らず、複数の異なる分類毎の制御信号を基地局から受け取り、この制御信号に基づいて異なる分類の相手端末の端末データを検索する携帯通信装置全般に対して適用することができる。

【００２５】

【発明の効果】この発明によれば、登録した端末データの検索の際、設定している分類の端末データだけを記憶手段から読み出して表示させ、他の分類の端末データは表示させないので、異なる分類の端末データが混在して登録されている場合でも、目標とする端末データを迅速に検索することができる。また、基地局との間で制御チャネルを確立したときにその基地局から送られてくる基地局識別符号に基づいて分類を設定することにより、家庭内に携帯通信装置があるときにはプライベート用の分類の端末データだけを検索することができ、事業所内に携帯通信装置があるときにはビジネス用の分類の端末データだけを検索することができる。さらに、所定分類毎に端末データを複数のエリア毎に記憶するようにしたので、複数のエリアを切り替えることにより所定分類の端末データを迅速に検索することができる。この場合において、記憶手段を装置本体に着脱可能に挿入する外部記憶手段で構成することにより、多数の端末データを登録することができ、用途に応じて外部記憶手段を交換することができる。さらにまた、前回着信又は発信した端末データの分類を記憶する構成とし、端末データの検索のときには、前回着信又は発信した端末データの分類に従ってモードを設定する。したがって、制御チャネルの確立を行うことなく、目標とする端末データを迅速に検索できる。

【図面の簡単な説明】

【図１】この発明の第１実施形態におけるＰＨＳ端末の操作面を示す平面図。

【図２】第１実施形態におけるＰＨＳ端末のシステムのブロック図。

【図３】第１実施形態における制御部の制御チャネル確立のフローチャート。

【図４】第１実施形態における電話帳メモリの構造を示す図。

【図５】第１実施形態における制御部のデータ読み込みのフローチャート。

【図６】第１実施形態の変形例における電話帳メモリの構造を示す図。

【図７】この発明の第２実施形態におけるＰＨＳ端末の操作面を示す平面図。

【図８】第２実施形態におけるＰＨＳ端末のシステムのブロック図。

【図９】第２実施形態における制御部のデータ読み込みのフローチャート。

【符号の説明】

１　キー入力部
２　スピーカ
３　マイク
４　表示部
５　アンテナ
６　回路部
１８　スロット
１９　メモリカード
２３　制御部
２７　電話帳メモリ
２６６　リダイヤルメモリエリア

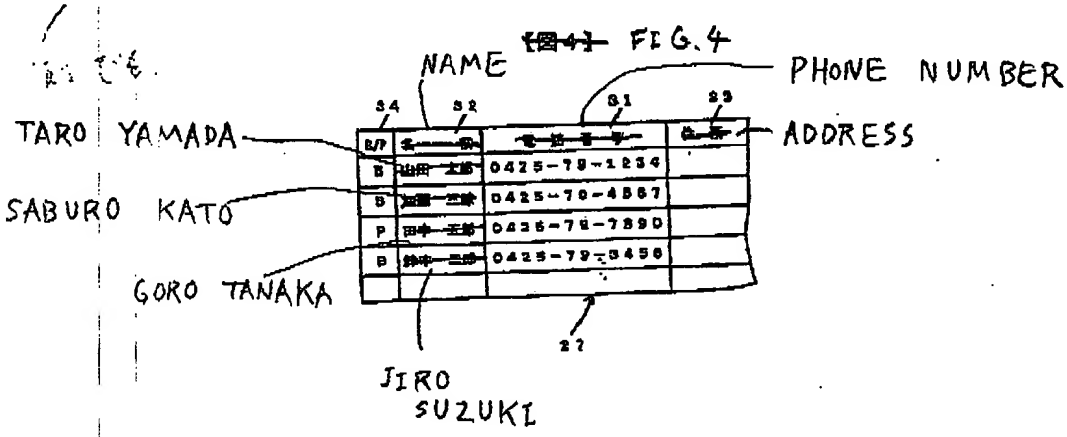
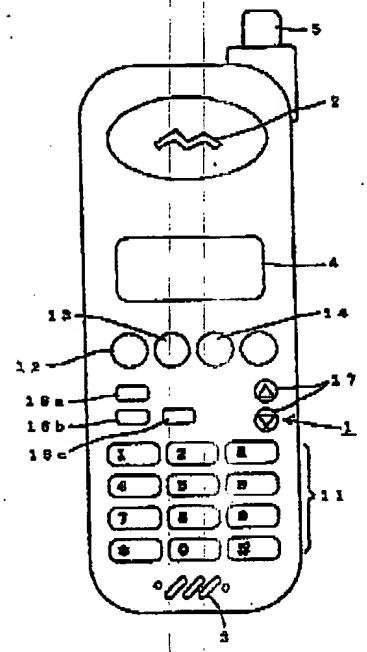
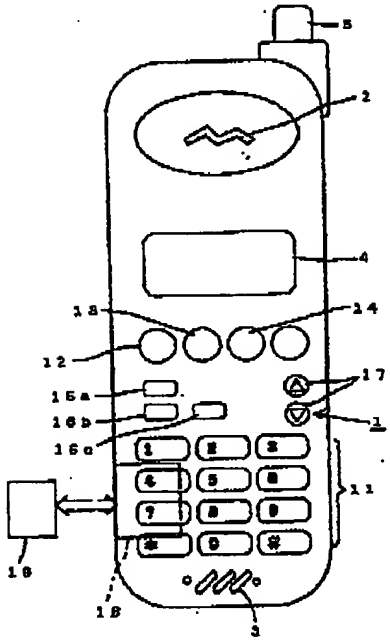


FIG.1

【図1】



【図6】 FIG.6



【図2】 FIG.2

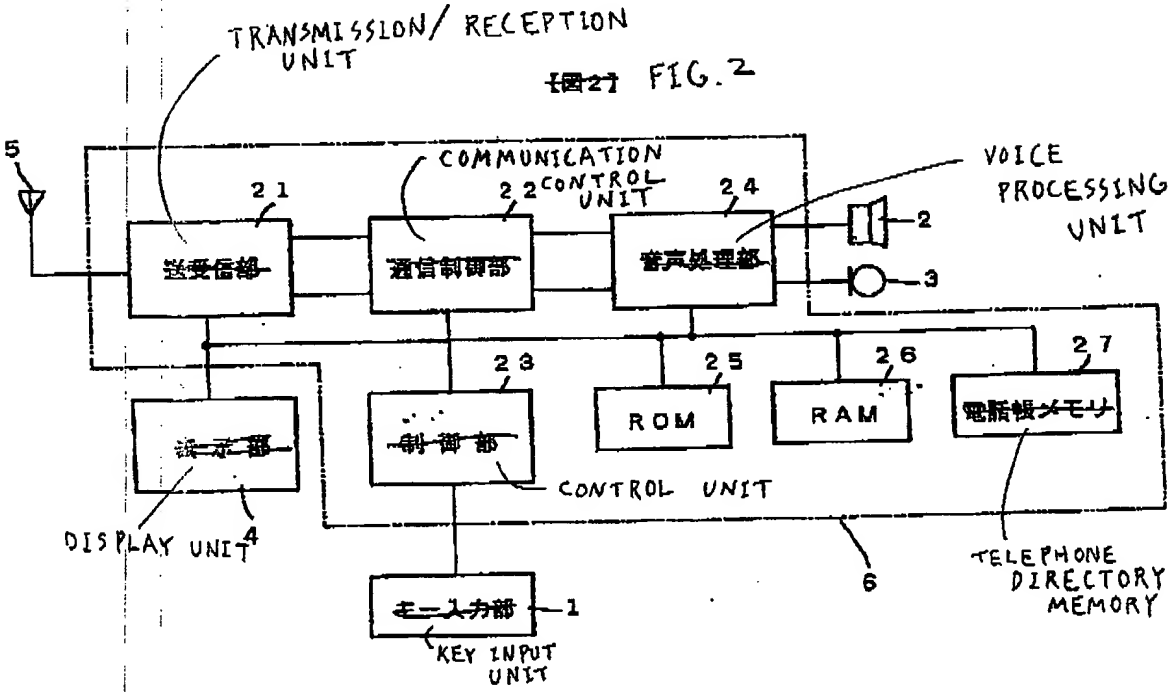
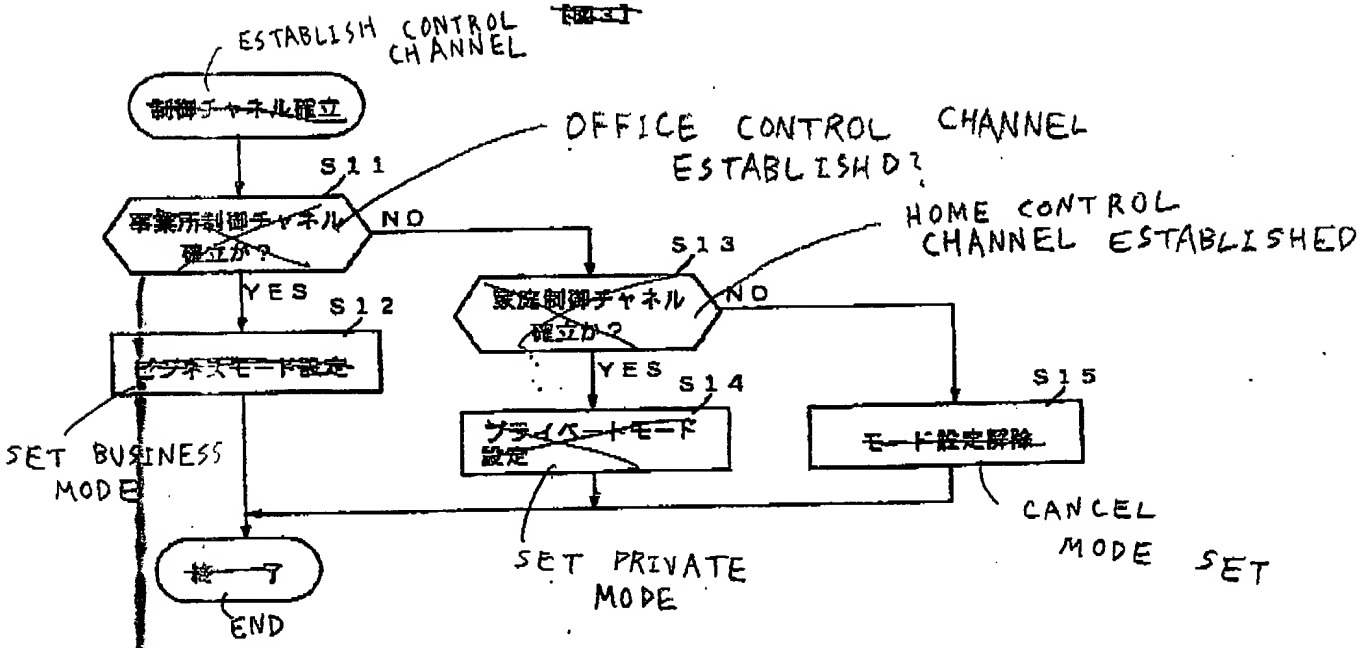
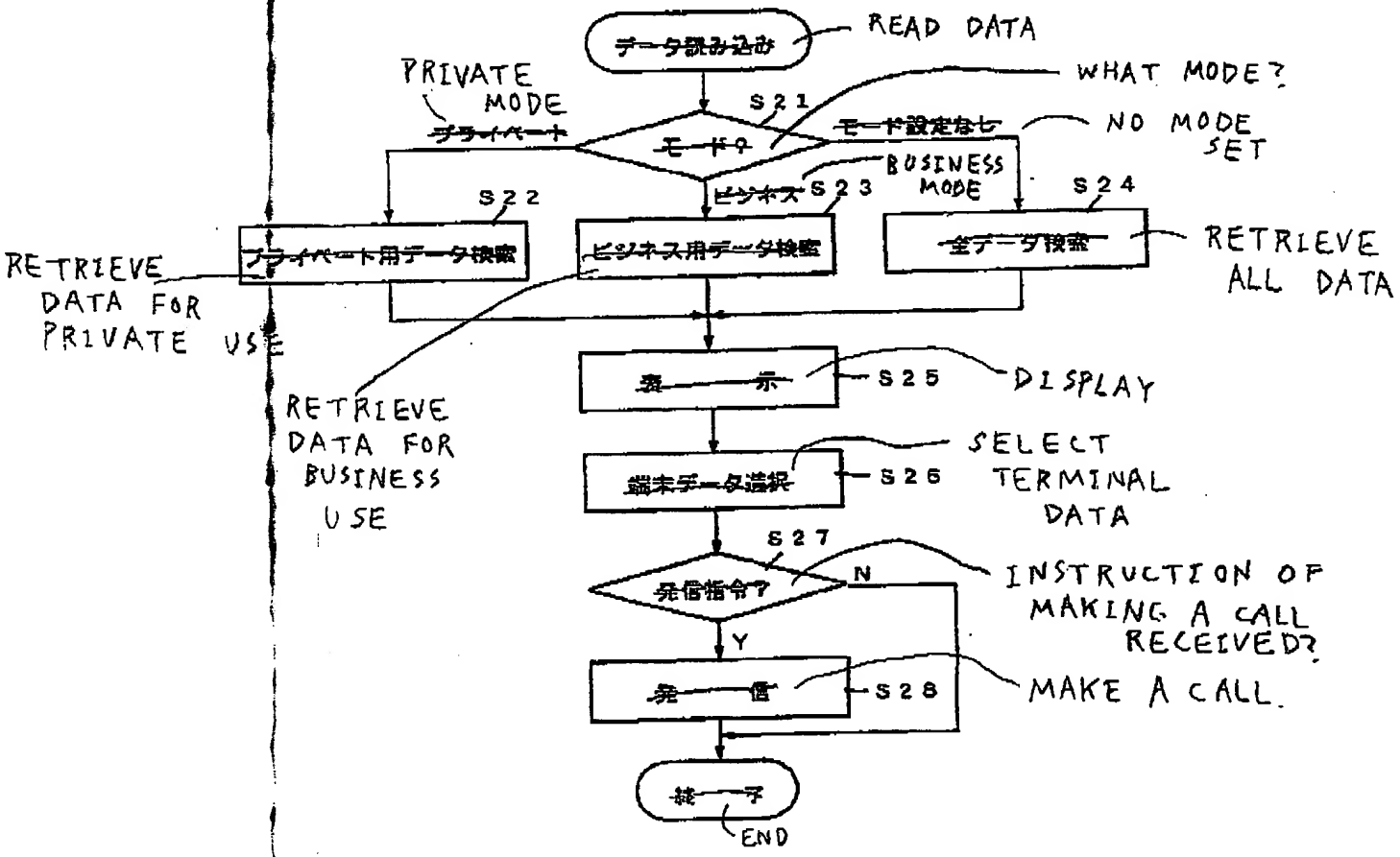


FIG. 3

【図3】



【図5】 FIG. 5



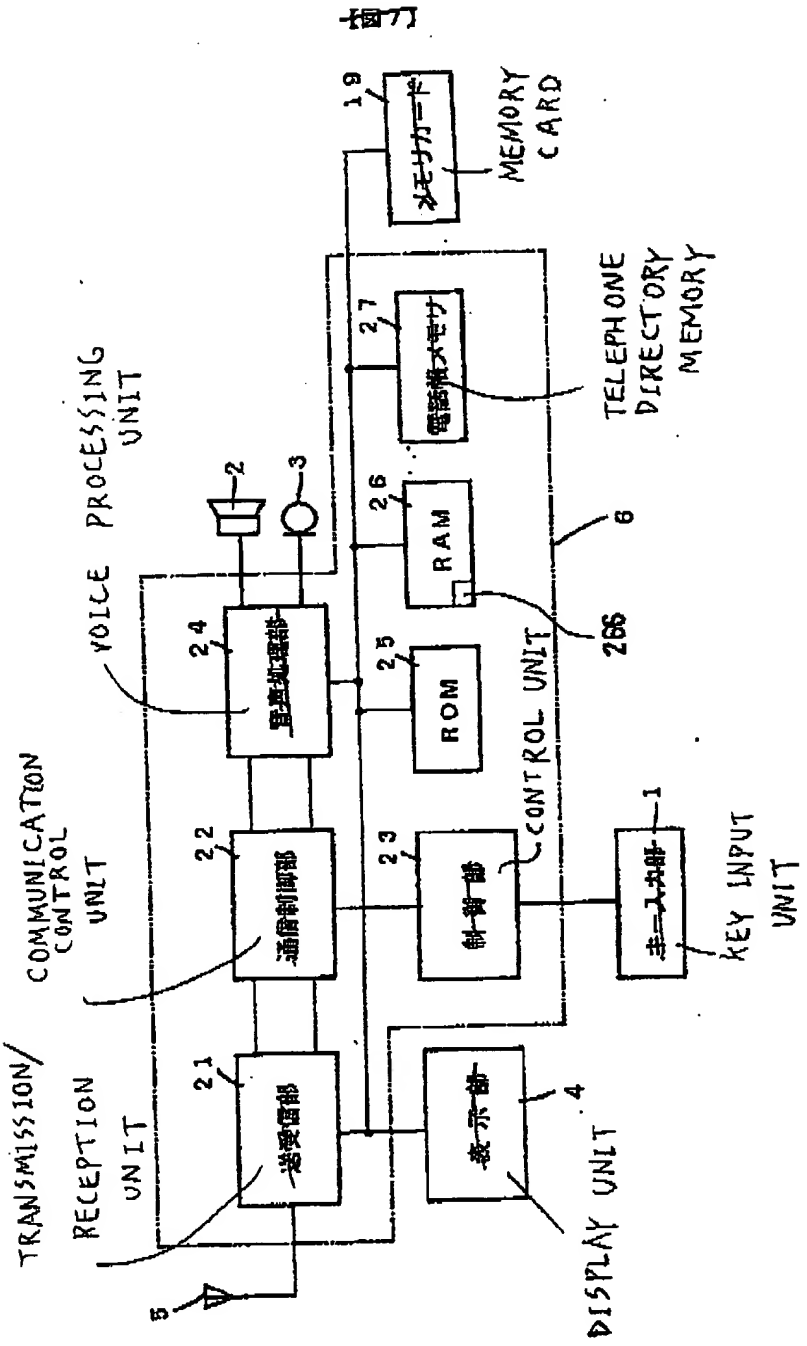

MEMORY CARD
TELEPHONE DIRECTORY MEMORY
RAM
ROM
CONTROL UNIT
VOICE PROCESSING UNIT
COMMUNICATION CONTROL UNIT
TRANSMISSION/ RECEPTION UNIT
KEY INPUT UNIT
DISPLAY UNIT

FIG. 7

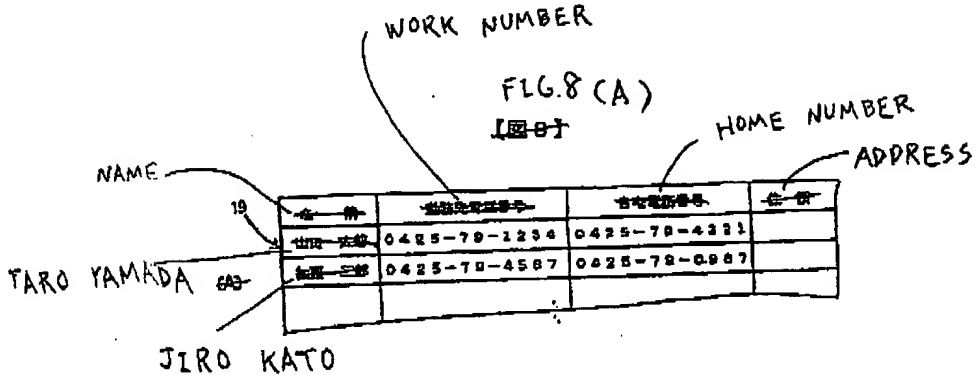

WORK NUMBER
HOME NUMBER
ADDRESS
NAME
19
0425-79-1234
0425-79-4321
0425-79-4567
0425-79-0987
TARO YAMADA
JIRO KATO

FIG.8(A)

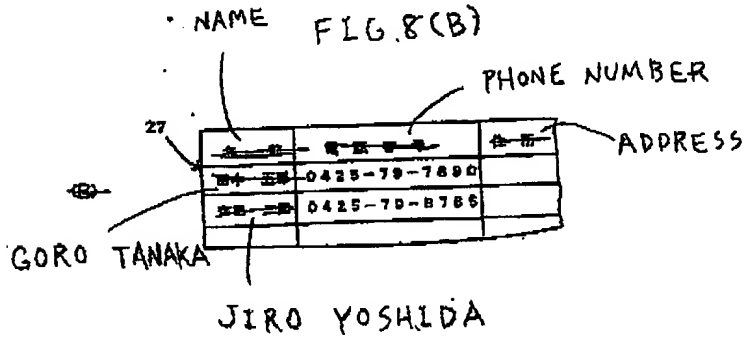
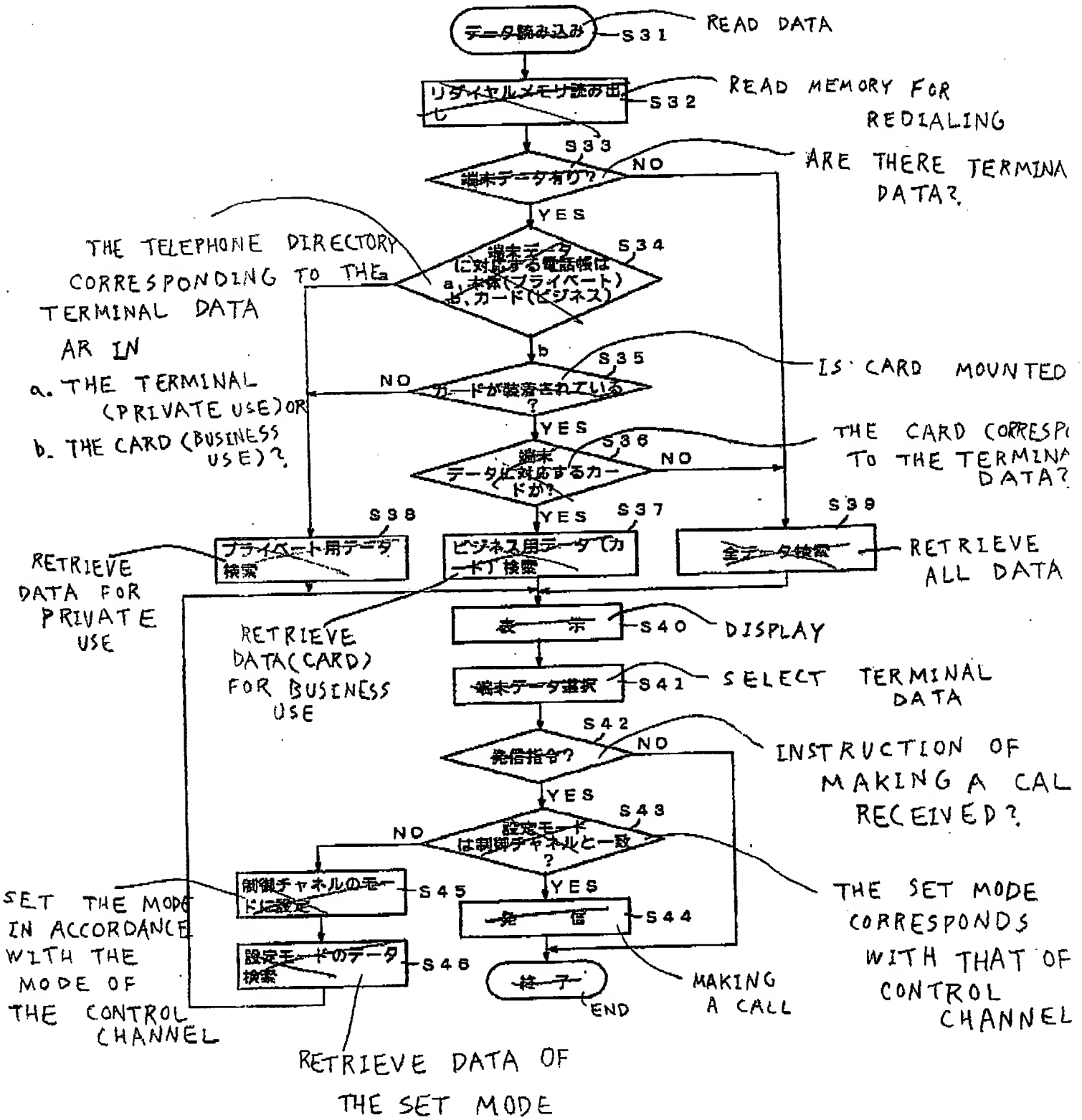

NAME
PHONE NUMBER
ADDRESS
27
0425-79-7890
0425-79-8765
GORO TANAKA
JIRO YOSHIDA

FIG.8(B)

【図9】 FIG. 9


データ読み込み
S31
READ DATA
リダイヤルメモリ読み出し
S32
READ MEMORY FOR REDIALING
S33
端末データ有り?
NO
ARE THERE TERMINA DATA?
YES
THE TELEPHONE DIRECTORY CORRESPONDING TO THE TERMINAL DATA AR IN
a. THE TERMINAL (PRIVATE USE) OR
b. THE CARD (BUSINESS USE)?
端末データに対応する電話帳は a.本体(プライベート) b.カード(ビジネス)
S34
b
S35
NO
カードが装着されている?
IS CARD MOUNTED
YES
端末データに対応するカードが?
S36
NO
THE CARD CORRESP TO THE TERMINA DATA?
YES
S38
S37
S39
プライベート用データ検索
ビジネス用データ(カード)検索
全データ検索
RETRIEVE ALL DATA
RETRIEVE DATA FOR PRIVATE USE
RETRIEVE DATA(CARD) FOR BUSINESS USE
表示
S40
DISPLAY
端末データ選択
S41
SELECT TERMINAL DATA
S42
発信指令?
NO
INSTRUCTION OF MAKING A CAL RECEIVED?
YES
S43
NO
設定モードは制御チャネルと一致?
YES
THE SET MODE CORRESPONDS WITH THAT OF CONTROL CHANNEL
制御チャネルのモードに設定
S45
SET THE MODE IN ACCORDANCE WITH THE MODE OF THE CONTROL CHANNEL
発信
S44
MAKING A CALL
設定モードのデータ検索
S46
終了
END
RETRIEVE DATA OF THE SET MODE

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